

AMENDMENTS

IN THE CLAIMS:

Please cancel claim 47 without prejudice or disclaimer of the subject matter set forth therein.

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of claims:

1. (previously presented) A golf club head comprising a hitting face for golf balls, said hitting face formed at least partially by a metallic material, and said metallic material satisfying the following relation:

$$y \geq 0.006x + 60$$

wherein

x is Young's modulus in units of kgf/mm², and

y is tensile strength in units of kgf/mm², and

wherein said metallic material has a young's modulus of 3,000 to 12,000 kgf/mm², and a tensile strength of 105 to 175 kgf/mm² and said hitting face has at least partially a hitting portion which consists of said metallic material with a thickness of 1 to 3 mm.

2. (previously presented) A golf club head according to claim 1, wherein said metallic material is an amorphous metal.

3. (previously presented) A golf club head according to claim 1, wherein said metallic material is an amorphous alloy of a zirconium base.

4. (previously presented) A golf club head according to claim 1, wherein said metallic material is an amorphous alloy comprising the elements Zr, Al, Cu, Ni, and Hf or an amorphorus alloy comprising the elements Zr, Al, Cu, and Ni.

5. (previously presented) A golf club head comprising a hitting face for golf balls, the surface of said hitting face being formed at least partially by a metallic material satisfying the following relationship:

$$z \geq (x/60) + 200$$

wherein x is Young's modulus in units of kgf/mm², and z is Vickers hardness in units of HV, and wherein said metallic material has a Young's modulus of 3,000 to 12,000 kgf/mm² and a Vickers hardness of 400 to 1,000 HV and said

hitting face has at least partially a hitting portion which consists of said metallic material with a thickness of 1 to 3 mm.

6. (previously presented) A golf club head according to claim 5, wherein said metallic material is an amorphous metal.

7. (previously presented) A golf club head according to claim 5, wherein said metallic material is an amorphous alloy of a zirconium base.

8. (previously presented) A golf club head according to claim 1, wherein said metallic material is an amorphous alloy comprising the elements Zr, Al, Cu, Ni, and Hf or an amorphous alloy comprising the elements Zr, Al, Cu, and Ni.

9. (previously presented) A golf ball club head according to claim 1, wherein said metallic material has a Young's modulus of 5,000 to 12,000 kgf/mm² and a tensile strength of 105 to 400 kgf/mm².

10. (previously presented) A golf ball club head according to claim 1, wherein said metallic material has a Young's modulus of 5,000 to 12,000 kgf/mm² and a tensile strength of 130 to 400 kgf/mm².

11. (previously presented) A golf ball club head according to claim 5, wherein said metallic material has a Young's modulus of 5,000 to 12,000 kgf/mm² and a Vickers hardness of 400 to 1,000 HV.

12. (previously presented) A golf ball club head according to claim 5, wherein said metallic material has a Young's modulus of 5,000 to 12,000 kgf/mm² and a Vickers hardness of 400 to 1,000 HV.

13. (previously presented) A golf ball club head according to claim 5, wherein said metallic material has a tensile strength of 80 to 400 kgf/mm².

14. (previously presented) A golf ball club according to claim 1, wherein the metallic metal is an amorphous metal expressed by the formula:

M_aX_b , wherein M represents two or more elements selected from the group consisting of Zr, V, Cr, Mn, Fe, Co, Ni, Cu, Ti, Mo, W, Ca, Li, Mg, Si, Al, Pd and Be; X is an element selected from the group consisting of Y, La, Ce, Sm, Md, Hf, Nb and Ta; and a and b represent atomic percentages in the ranges of $65 \leq a \leq 100$ and $0 \leq b \leq 35$, respectively.

15. (previously presented) A golf ball club according to claim 5, wherein the metallic metal is an amorphous metal expressed by the formula:

M_aX_b , wherein M represents two or more elements selected from the group consisting of Zr, V, Cr, Mn, Fe, Co, Ni, Cu, Ti, Mo, W, Ca, Li, Mg, Si, Al, Pd and Be; X is an element selected from the group consisting of Y, La, Ce, Sm, Md, Hf, Nb and Ta; and a and b represent atomic percentages in the ranges of $65 \leq a \leq 100$ and $0 \leq b \leq 35$, respectively.

16. (previously presented) A golf ball head according to claim 1 wherein the metallic material is an amorphous metal of the formula: $Zr_cM_dX_e$, wherein Zr is Zirconium; M is an element selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Cu, Ti, Mo, W, Ca, Li, Mg, Si, Al, Pd and Be; X is an element

selected from the group consisting of Y, La, Ce, Sm, Md, Hf, Nb and Ta; and c, d and e represent atomic percentages within the ranges of $20 \leq c \leq 80$, $20 \leq d \leq 80$, and $0 \leq e \leq 35$, respectively.

17. (previously presented) A golf ball head according to claim 5 wherein the metallic material is an amorphous metal of the formula: $Zr_cM_dX_e$, wherein Zr is Zirconium; M is an element selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Cu, Ti, Mo, W, Ca, Li, Mg, Si, Al, Pd and Be; X is an element selected from the group consisting of Y, La, Ce, Sm, Md, Hf, Nb and Ta; and c, d and e represent atomic percentages within the ranges of $20 \leq c \leq 80$, $20 \leq d \leq 80$, and $0 \leq e \leq 35$, respectively.

18. (previously presented) A golf ball head according to claim 1 wherein the metallic material is an amorphous metal of the formula: $Zr_cM_dX_e$, wherein Zr is Zirconium; M is an element selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Cu, Ti, Mo, W, Ca, Li, Mg, Si, Al, Pd and Be; X is an element selected from the group consisting of Y, La, Ce, Sm, Md, Hf, Nb

and Ta; and c, d and e represent atomic percentages within the ranges of $50 \leq c \leq 75$, $25 \leq d \leq 50$, and $0 \leq e \leq 1$, respectively.

19. (previously presented) A golf ball head according to claim 5 wherein the metallic material is an amorphous metal of the formula: $Zr_cM_dX_e$, wherein Zr is Zirconium; M is an element selected from the group consisting of V, Cr, Mn, Fe, Co, Ni, Cu, Ti, Mo, W, Ca, Li, Mg, Si, Al, Pd and Be; X is an element selected from the group consisting of Y, La, Ce, Sm, Md, Hf, Nb and Ta; and c, d and e represent atomic percentages within the ranges of $50 \leq c \leq 75$, $25 \leq d \leq 50$, and $0 \leq e \leq 1$, respectively.

20. (previously presented) A golf club head according to claim 5, wherein a thickness of said metallic material is 1 to 3 mm.

21. (previously presented) A golf club head comprising a hitting face for golf balls, said hitting face formed at least partially by a metallic material, and said metallic material satisfying the following relationship:

$$y \geq 0.006x + 60$$

wherein x is Young's modulus in units of kgf/mm², and y is tensile strength in units kgf/mm², and

wherein said metallic material has a Young's modulus of 5,000 to 16,000 kgf/mm² and a tensile strength of 105 to 175 kgf/mm².

22. (previously presented) A golf club head according to claim 21, wherein a thickness of said metallic material is 1 to 3 mm.

23. (previously presented) A golf club head according to claim 21, wherein said metallic material is an amorphous metal.

24. (previously presented) A golf club head according to claim 21, wherein said metallic material is an amorphous alloy of a zirconium base.

25. (previously presented) A golf club head according to claim 21, wherein said metallic material is an amorphous alloy comprising the elements Zr, Al, Cu, Ni, and Hf or an amorphous alloy comprising the elements Zr, Al, Cu and Ni.

26. (previously presented) A golf club head according to claim 7, wherein said metallic material satisfies the following relation:

$y > 0.006x + 63$ wherein y is tensile strength in units of kgf/mm².

27. (previously presented) A golf club head according to claim 1, wherein the back of said hitting portion is not supported by a support member.

28. (previously presented) A golf club head according to claim 5, wherein said metallic material has a young's modulus of 3,000 to 10,000 kgf/mm².

29. (previously presented) A golf club head according to claim 5, wherein the back of said hitting portion is not supported by a support member.

30. (previously presented) A golf club head according to claim 21, wherein said metallic material satisfies the following relation:

$$y > 0.006x + 63.$$

31. (previously presented) A golf club head according to claim 21, wherein said hitting face has at least partially a hitting

portion which consists of said metallic material with a thickness of 1 to 3 mm.

32. (previously presented) A golf club head according to claim 21, wherein said hitting face has at least partially a hitting portion which consists of said metallic material with a thickness of 1 to 3 mm and the back of said hitting portion is not supported by a support member.

33. (previously presented) The golf club head of claim 1 wherein the head is wood.

34. (previously presented) The golf club head of claim 5 wherein the head is wood.

35. (previously presented) The golf club head of claim 21 wherein the head is wood.

36. (previously presented) The golf club head of claim 1 wherein the head is iron.

37. (previously presented) The golf club head of claim 5 wherein the head is iron.

38. (previously presented) The golf club head of claim 21 wherein the head is iron.

39. (withdrawn - previously presented) The golf club head of claim 1 wherein the hitting portion has uniform thickness.

40. (withdrawn - previously presented) The golf club head of claim 5 wherein the hitting portion has uniform thickness.

41. (withdrawn - previously presented) The golf club head of claim 21 wherein the hitting portion has uniform thickness.

42. (previously presented) The golf club head of claim 1 wherein the head comprises a head body and a face plate made of said metallic material and the head body is provided with a face mounting part for attaching the face plate comprising a periphery of a hitting face, and the face mounting part is provided with a step down zone.

43. (previously presented) The golf club head of claim 5 wherein the head comprises a head body and a face plate made of said metallic material and the head body is provided with a face mounting part for attaching the face plate comprising a periphery of a hitting face, and the face mounting part is provided with a step down zone.

44. (previously presented) The golf club head of claim 21 wherein the head comprises a head body and a face plate made of said metallic material and the head body is provided with a face mounting part for attaching the face plate comprising a periphery of a hitting face, and the face mounting part is provided with a step down zone.

45. (previously presented) The golf club head of claim 1 wherein the head comprises a head body and a face plate made of said metallic material wherein the face plate is constructed with a thicker central part with a periphery part whose thickness reduces gradually outward.

46. (previously presented) The golf club head of claim 5 wherein the head comprises a head body and a face plate made of said

metallic material wherein the face plate is constructed with a thicker central part with a periphery part whose thickness reduces gradually outward.

47. (canceled).

48. (withdrawn - previously presented) The golf club head of claim 1 wherein the head comprises a head body and a face plate made of said metallic material wherein the face plate is constructed with a thinner central part with a periphery part whose thickness increases gradually outward.

49. (withdrawn - previously presented) The golf club head of claim 5 wherein the head comprises a head body and a face plate made of said metallic material wherein the face plate is constructed with a thinner central part with a periphery part whose thickness increases gradually outward.

50. (withdrawn - previously presented) The golf club head of claim 21 wherein the head comprises a head body and a face plate made of said metallic material wherein the face plate is

Application No.: 09/194,112

constructed with a thinner central part with a periphery part whose thickness increases gradually outward.